Heating & Air Conditioning
Amana®
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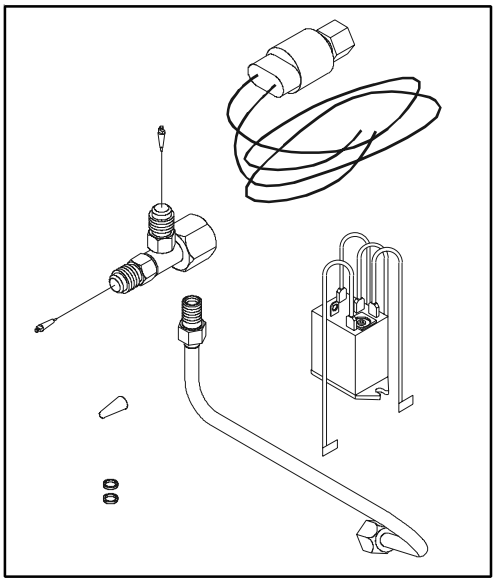
LOW AMBIENT CONTROL
INSTALLATION INSTRUCTIONS
LAC01A

Description

The Low Ambient Control LAC01A kit is designed for use with **Amana® RCC, RCE single-phase** remote condensing units, and **Amana® RCB, VCA and VCB three-phase** remote condensing units. As shipped, these condensing units are suitable for operation at outdoor temperatures of **50°F and above**. Used in conjunction with the LAC01A kit, these units can be used in **outdoor ambient temperatures as low as 35°F.** This control operates by stopping the outdoor fan when the high side pressure becomes too low. The fan will automatically restart when the high side pressure rises.

⚠ CAUTION

To avoid compressor damage and loss of warranty coverage, do NOT install this kit in an indoor coil system that does not include a thermostatic expansion valve.



This kit includes:

Refrigerant Tee, With Two Valve Cores
Low Ambient Cutout Control
Wire Nut
Low Ambient Label
Installation Instructions
Teflon Seals

ATTENTION INSTALLING PERSONNEL

As a professional installer you have an obligation to know the product better than the customer. This includes all safety precautions and related items.

Prior to actual installation, thoroughly familiarize yourself with this Instruction Manual. Pay special attention to all safety warnings. Often during installation or repair it is possible to place yourself in a position which is more hazardous than when the unit is in operation.

Remember, it is your responsibility to install the product safely and to know it well enough to be able to instruct a customer in its safe use.

Safety is a matter of common sense...a matter of thinking before acting. Most dealers have a list of specific good safety practices...follow them.

The precautions listed in this Installation Manual are intended as supplemental to existing practices. However, if there is a direct conflict between existing practices and the content of this manual, the precautions listed here take precedence.

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INSTALLATION INSTRUCTIONS

The LAC01A Kit is installed onto the unit discharge line fitting. To install, remove and set aside the control box cover and screws. Carefully swing the control box cover 90° counterclockwise and follow the instructions below.

⚠ WARNING

To avoid the risk of electrical shock, injury, or death, disconnect the electrical power before installing this kit.

⚠ WARNING

To avoid possible injury from refrigerant, wear gloves and goggles while installing this kit.

See the outdoor unit Installation Instructions for other “Safe Refrigerant Handling” guidelines.

RCB, VCA and VCB Three- Phase Units

1. Remove and discard the discharge line fitting cap.
2. Place a teflon seal in the fitting of the low ambient control.
3. Install the Low Ambient Control on the discharge line fitting. Using a backup wrench, tighten to 115 - 120 inch-pounds to avoid refrigerant leaks.

Without running the unit, perform a preliminary leak check on the low ambient control. If a leak is found, tighten the connection slightly and retest.

RCC/RCE Single Phase Units

1. Using two wrenches to prevent the line from twisting, disconnect the high pressure cutout from the discharge line fitting. Do not remove wires from the high pressure cutout.
2. Place a teflon seal in the female opening of the supplied refrigerant tee.
3. Install the refrigerant tee on the discharge line fitting. Using a backup wrench, tighten to 115 - 120 inch-pounds to avoid refrigerant leaks.
4. Reinstall the high pressure cutout on one end of the tee. Tighten to 115 - 120 inch-pounds to avoid refrigerant leaks.
5. Place a teflon seal in the fitting of the low ambient control. Install the Low Ambient Control on the remaining end of the tee. Tighten to 115 - 120 inch-pounds to avoid refrigerant leaks.

Without running the unit, perform a preliminary leak check on the tee, Low Ambient Control, and high pressure cutout. If a leak is found, tighten the joint slightly and retest.

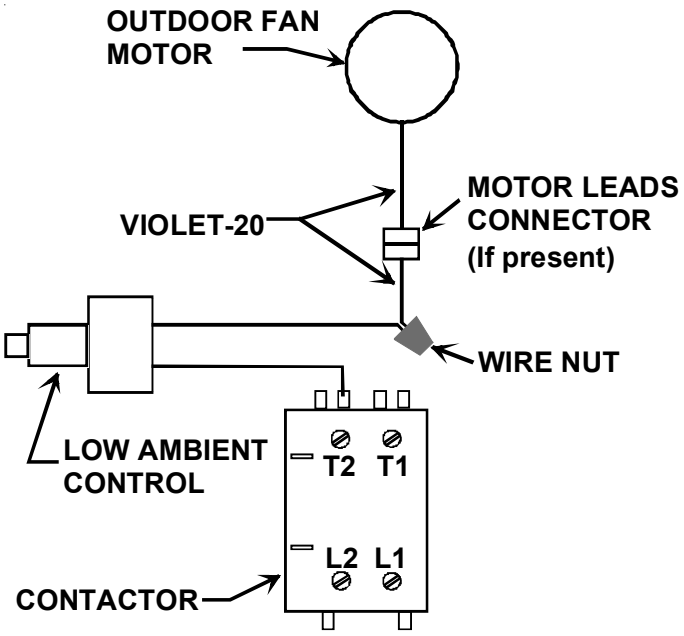
Final Installation Step [All Units]

1. Route the blue wires from the low ambient control into the unit control box. To avoid equipment damage, route the wires so they avoid the fan.
2. Carefully swing the control box clockwise to its original position. Reattach using the screws removed earlier.

FINAL WIRING

1. Disconnect the Violet-20 **fan motor** lead (not the compressor lead) from the contactor (Terminal T2 on single-phase units, Terminal T1 on three-phase units).
2. Install the supplied straight female terminal wire (blue), onto the contactor (Terminal T2 on single-phase units, Terminal T1 on three phase units.
3. Locate the Violet-20 fan motor lead from step 1. Cut off the terminal, and strip the insulation off the last 1/2 inch of the wire.
4. Attach the supplied blue wire with the stripped end to the Violet-20 wire from step 3 using the supplied wire nut. For a secure connection, use pliers to crimp the wire nut onto the wires.
5. Using the supplied Low Ambient Control label 10767901 as a guide, carefully inspect all wiring. Confirm that all connections are tight and that no errors have been made.
6. Remove the backing from the low ambient label. Without covering the unit wiring diagram, attach the low ambient label on the inside of the control box cover.
7. Replace the control box cover.
8. To complete the outdoor unit's installation, refer to the outdoor unit installation manual.

When the system installation is complete, and the outdoor temperature is 35°F or higher, run the system to confirm proper operation: At compressor startup, the outdoor fan will not initially run. The outdoor fan will come on when the head pressure rises to about 220 psi. During warm weather, the outdoor fan will continue to run as long as the compressor runs. During cool weather, the head pressure will drop after the outdoor fan comes on. If the head pressure drops to about 100 psi, the outdoor fan will shut off. The head pressure will then begin to rise. The outdoor fan will restart when the head pressure rises to about 220 psi.



LAC01A Wiring
Single-Phase Unit Shown

If any sparking, unusual odors, or unusual sounds are noticed, immediately disconnect the electrical power and check wiring and electrical components.

NOTE: With the compressor running, it may be advisable to perform a final leak check on the low ambient cut-out and nearby components. Read the "Servicer's Note" on the last page before proceeding.

SERVICER'S NOTE

CAUTION

Avoid servicing the low ambient control while the unit is operating. The rotating fan blades could cause serious injury.

If measurement of the high side pressure is required, use the liquid line valve on the outside of the unit. Also note that most electrical measurements for the compressor can be performed adequately near the contactor, rather than at the compressor itself. If you must service the area near the compressor or low ambient control with the unit in operation, consider doing the following:

a. Disconnect the electrical power

b. Unplug the outdoor fan motor.

c. Carefully reconnect the electrical power.

d. Operate the compressor only long enough to complete the needed service function. Note that the lack of outdoor airflow will cause the head pressure to be substantially higher than normal. Suction pressure and amp draw will be higher than normal. Subcooling will be less than normal.

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